

Office Action Summary

Applicati n No.

10/063,828

Applicant(s)

MARKO ET AL.

Examiner

Mohamed Charioui

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claim 10** is objected to because of the following informalities: claim 10 recites the limitation "said vehicle" in page 18. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9, 11-13, 15-18 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Coiner et al. (U.S. 5,638,273).

As per claims 1, 11-13 and 22, Coiner et al. teach a system for monitoring performance of an apparatus (see col. 2, lines 30-37), a plurality of operational components functioning in the apparatus, each operational component with a predetermined nominal operating state and each generating respective electrical signals pursuant to their operation (see col. 2, lines 37-52); a data collection memory in the apparatus storing samples of the electrical signals in a rolling buffer (see col. 4, lines 4-20); an analyzer in the apparatus responsive to the electrical signals for detecting a trigger event indicative of at least a potential variance of an operational component from its nominal operating state (see col. 6, line 62 to col. 7, line 5); a computation center

Art Unit: 2857

located remotely from the apparatus and having a database storing representations of electrical signals for classifying nominal and irregular operating states of the operational components (see col. 2, line 53 to col. 3, line 20); and a transmitter activated by the trigger event to transmit at least some of the stored samples in the rolling buffer at the time of the trigger event to the computation center (see col. 2, line 53 to col. 3, line 20); wherein the computation center receives the transmitted samples and classifies them according to the nominal or irregular operating states (see col. 4, line 39 to col.5, line 23 and col. 2, line 53 to col.3, line 7).

As per claim 2, Coiner et al. further teach that apparatus is comprised of a motor vehicle and that the transmitter is a wireless transmitter (see col. 2, lines 30-38 and col. 3, lines 15-20).

As per claims 3-9, Coiner et al. further teach that samples transmitted by the transmitter are comprised of a predetermined subset of the electrical signals (see col. 4, lines 41-58 and col. 2, line 61 to col. 3, line 7).

As per claim 15, Coiner et al. further teach that the operational components include electronic modules having respective microcontrollers, and wherein the trigger event is comprised of the detection of the setting of a predetermined diagnostic code in one of the microcontrollers (see col. 4, line 59 to col. 5, line 23).

As per claims 16-18, Coiner et al. further teach that the analyzer compares at least one sample with a predetermined threshold, and wherein the trigger event is generated in response to the comparison (see col. 2, lines 37-60).

As per claim 20, Coiner et al. further teach that the analyzer performs a predetermined analysis routine to detect the trigger event (see col. 5, lines 44-61).

As per claim 21, Coiner et al. further teach that the predetermined analysis routine is downloaded from the computation center via transceiver (see col. 3, lines 2-20).

As per claim 23, Coiner et al. further teach that displaying messages from said computation center in response to a classification of transmitted samples (see col. 7, lines 53-67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Coiner et al. in view of McGrath et al. (U.S. 5,615,930).

Coiner et al. teach the system as stated above except that analyzer determines an average value of a predetermined electrical signal over time, compares the average value to a predetermined average threshold, and generates the trigger event in response to the comparison.

McGrath et al. teach this feature (see col. 3, lines 10-22). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate McGrath et al.'s teaching into Coiner et al.'s invention, because it would

determine whether or not the average value of the predetermined signal exceeds the predetermined threshold over a predetermined averaging time period. Therefore, the sensitivity of the controller to generate trigger events would be reduced and false triggering events would be prevented.

4. **Claims 10 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Coiner et al. in view of Fiechter et al (U.S. 6,609,051).

As per claim 10, Coiner et al. teach the system as stated above except that samples summarize an operational history of the vehicle and the computation center analyzes a severity of operation for various system components in order to project operational lifetime in response to the samples.

Fiechter et al. teach this feature (see col. 4, line 55 to col. 5, line 34). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Fiechter et al.'s teaching into Coiner et al.'s invention, because it would determine the expected time to failure of each component that is being monitored. Therefore, evaluation of the vehicle components performance would be determined to prevent sudden failure of the components and vehicle maintenance would be reduced.

As per claim 24, Coiner et al. teach the system as stated above except that computation center adjusts the database in response to the transmitted samples so that the adjusted database is used for future classifications of other apparatus by the computation center.

Fiechter et al. teach this feature (see col. 5, lines 23-47). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Fiechter et al.'s teaching into Coiner et al.'s invention, because it would update the database to include the new vehicle performance conditions. Therefore, the diagnosis algorithm would include the up-coming vehicle problems to accurately perform the vehicle diagnosis and determine the vehicle maintenance status.

5. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Coiner et al. in view of Bastian et al. (U.S. 6,381,532).

Coiner et al. teach the system as stated above except that the trigger event is comprised of the detection of the setting of a predetermined flag in one of the microcontrollers.

Bastian et al. teach this feature (see col. 4, line 61 to col. 5, line 29). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate Bastian et al.'s teaching into Coiner et al.'s invention, because it would provide the setting of predetermined flags for trigger events where flags would indicate which events in the set are associated with the trigger. Therefore, the trigger event would be fired and a series of actions would be automatically performed when the specific event occurs.

Prior art

6. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Arjonmand ['202] disclose modular wireless diagnostic test and information system.

Doo et al. ['819] disclose in-line triggers.

Knopka et al. ['115] disclose electronic controls for compression release engine brakes.

Kaman et al. ['468] disclose vehicle system analyzer and tutorial unit.

Ng ['347] discloses automated wireless preventive maintenance monitoring system for magnetic levitation trains and other vehicles.

Juhasz et al. ['421] disclose vehicle monitoring and recording system.

Blosser ['918] discloses automotive on-board monitoring system for catalytic converter evaluation.

La Joie et al. ['048] disclose diagnostic system for run-time monitoring of computer operations.

Contact information

7. Any inquiry concerning this communication from examiner should be directed to Mohamed Charioui whose telephone number is 703 605-4362. The examiner can normally be reached Monday to Friday 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached at 703 308-1677. The fax phone number for the organization where this application is assigned is 703 305-3431.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose number is 703 308-0956.

Mohamed Charioui

10/9/03


MARC S. HOFF
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